

Abstract

The present invention is directed to a method of identifying an acetyltransferase substrate in a sample that includes the steps of: (a) contacting the sample with (i) a reagent comprising a thiol-containing compound, a halo-acetyl-CoA or a halo-acetyl-pantetheine, and (ii) an acetyltransferase, under conditions suitable for acetyltransferase enzyme activity, and (b) identifying a substrate that has formed a base-stable covalent bond to the reagent, wherein the reagent is labeled with a label and/or the acetyltransferase is labeled with an affinity tag, and the substrate is the acetyltransferase substrate.